

CLAIMS

1. A resin for a positive resist composition, comprising:

a structural unit (a1) represented by a general formula (I) shown below:



(wherein, R represents -H or -CH₃),

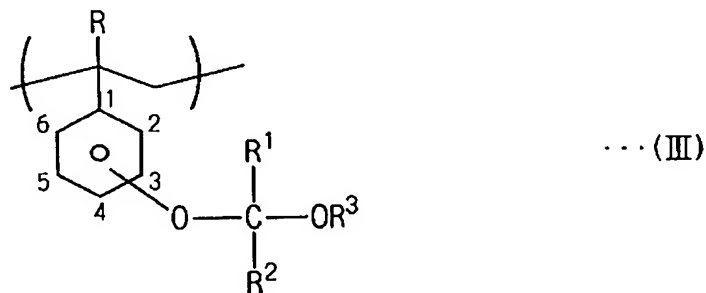
a structural unit (a2) represented by a general formula (II) shown below:



(wherein, R represents -H or -CH₃, and X represents an acid dissociable, dissolution

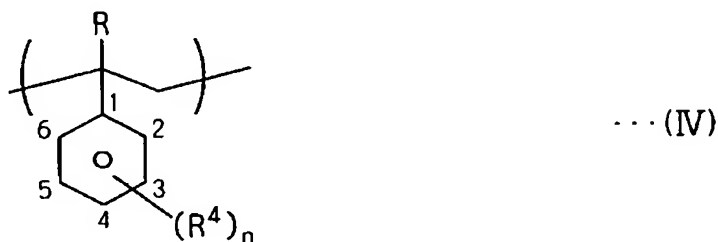
- 10 inhibiting group, which is an alkyl group with a tertiary carbon atom in which said tertiary carbon atom is bonded to an ester group),

a structural unit (a3) represented by a general formula (III) shown below:



(wherein, R and R¹ each represent, independently, -H or -CH₃, R² represents -CH₃ or -C₂H₅, and R³ represents a lower alkyl group), and

a structural unit (a4) represented by a general formula (IV) shown below:



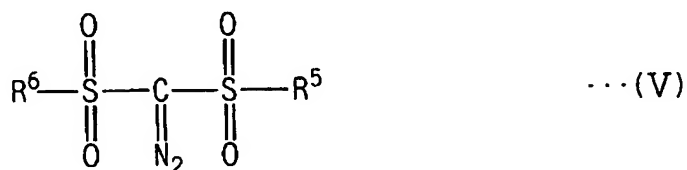
5 (wherein, R represents -H or -CH₃, R⁴ represents a lower alkyl group, and n represents either 0, or an integer from 1 to 3).

2. A positive resist composition, comprising a resin component (A) comprising a resin for a positive resist composition according to claim 1, and an acid generator (B) that
10 generates acid on exposure.

3. A positive resist composition according to claim 2, wherein said component (B) comprises a diazomethane-based acid generator (B1) and an onium salt-based acid generator (B2).

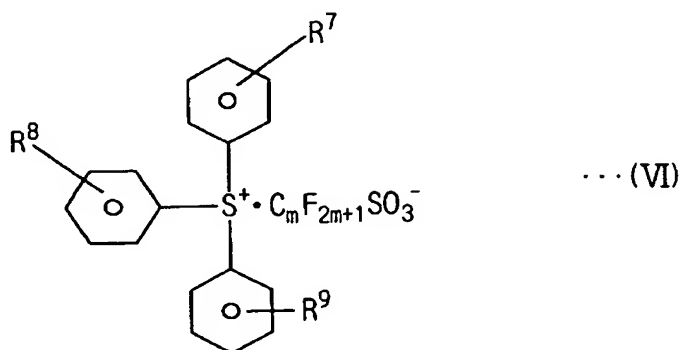
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4. A positive resist composition according to claim 3, wherein said component (B1) comprises a compound represented by a general formula (V) shown below:



(wherein, R^5 and R^6 each represent, independently, a straight-chain, branched, or cyclic alkyl group of 3 to 7 carbon atoms).

5. A positive resist composition according to claim 4, wherein said component (B2) comprises a compound represented by a general formula (VI) shown below:

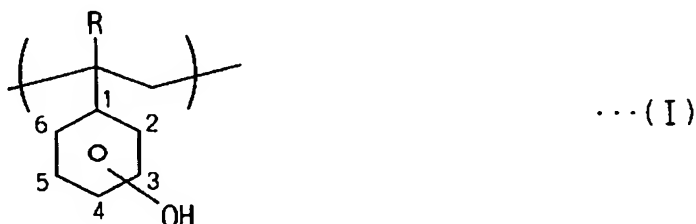


(wherein, R^7 , R^8 and R^9 each represent, independently, a hydrogen atom, or an alkyl group or alkoxy group of 1 to 4 carbon atoms, and m represents an integer from 1 to 10).

6. A positive resist composition according to claim 2, further comprising a nitrogen-containing organic compound (D).
7. A laminate, comprising a resist layer formed from a positive resist composition according to claim 2 provided on top of a substrate.
8. A method for forming a resist pattern, comprising the steps of: (1) providing a resist layer formed from a positive resist composition according to claim 2 on top of a substrate, (2) conducting selective exposure of said resist layer, (3) performing post exposure baking of said selectively exposed resist layer, and (4) conducting alkali developing of said post exposure baked resist layer.

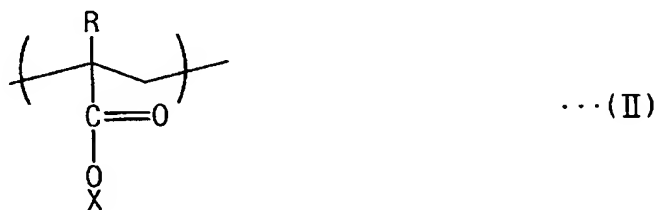
9. A positive resist composition, which is a chemically amplified positive resist composition for forming a resist layer, either on top of a substrate and a magnetic film provided on top of said substrate, or on top of a metallic oxidation prevention film provided on top of said magnetic film, wherein said composition comprises:

a resin component (A'), which exhibits increased alkali solubility under action of acid, and comprises a structural unit (a1) represented by a general formula (I) shown below:



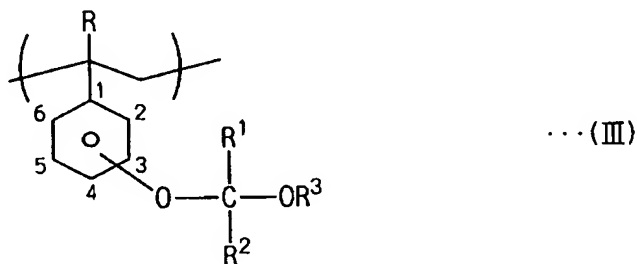
- 10 (wherein, R represents -H or -CH₃), and

a structural unit (a2) represented by a general formula (II) shown below:



- (wherein, R represents -H or -CH₃, and X represents an acid dissociable, dissolution inhibiting group, which is an alkyl group with a tertiary carbon atom in which said tertiary carbon atom is bonded to an ester group),
- 15 a diazomethane-based acid generator (B1), and
- an onium salt-based acid generator (B2).

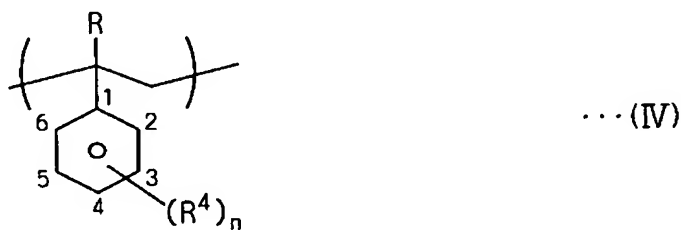
10. A positive resist composition according to claim 9, wherein said component (A') further comprises a structural unit (a3) represented by a general formula (III) shown below:



5 (wherein, R and R¹ each represent, independently, -H or -CH₃, R² represents -CH₃ or -C₂H₅, and R³ represents a lower alkyl group).

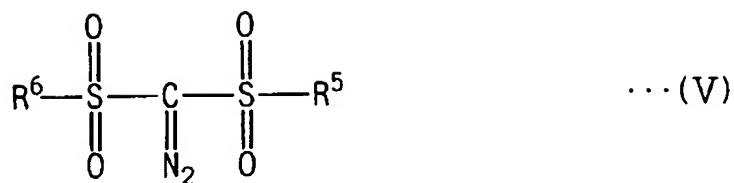
11. A positive resist composition according to claim 9, wherein said component (A') further comprises a structural unit (a4) represented by a general formula (IV) shown

10 below:



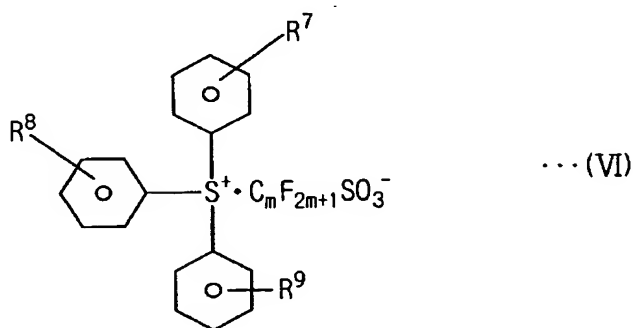
(wherein, R represents -H or -CH₃, R⁴ represents a lower alkyl group, and n represents either 0, or an integer from 1 to 3).

15 12. A positive resist composition according to claim 9, wherein said component (B1) comprises a compound represented by a general formula (V) shown below:



(wherein, R^5 and R^6 each represent, independently, a straight-chain, branched, or cyclic alkyl group of 3 to 7 carbon atoms).

- 5 13. A positive resist composition according to claim 9, wherein said component (B2) comprises a compound represented by a general formula (VI) shown below:



(wherein, R^7 , R^8 and R^9 each represent, independently, a hydrogen atom, or an alkyl group or alkoxyl group of 1 to 4 carbon atoms, and m represents an integer from 1 to 10).

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14. A positive resist composition according to claim 9, further comprising a nitrogen-containing organic compound (D).

15. A positive resist composition according to claim 9, wherein a principal

- 15 component of said magnetic film comprises one or more metals selected from a group consisting of iron, cobalt, and nickel.

16. A positive resist composition according to claim 9, wherein a principal component of said oxidation prevention film comprises one or more materials selected from a group consisting of tantalum and aluminum oxide (Al_2O_3).

5 17. A laminate, comprising a substrate, either a magnetic film provided on top of said substrate, or said magnetic film and a metallic oxidation prevention film provided thereon, and a resist layer formed from a positive resist composition according to claim 9 provided on top.

10 18. A laminate according to claim 17, wherein a principal component of said magnetic film comprises one or more metals selected from a group consisting of iron, cobalt, and nickel.

15 19. A laminate according to claim 17, wherein a principal component of said oxidation prevention film comprises one or more materials selected from a group consisting of tantalum and aluminum oxide (Al_2O_3).

20 20. A method for forming a resist pattern, comprising the steps of: (1) providing a resist layer formed from a positive resist composition according to any one of claim 9 through claim 16, either on top of a substrate and a magnetic film provided on top of said substrate, or on top of a metallic oxidation prevention film provided on top of said magnetic film, (2) conducting selective exposure of said resist layer, (3) performing post exposure baking of said selectively exposed resist layer, and (4) conducting alkali developing of said post exposure baked resist layer.

21. A method for forming a resist pattern according to claim 20, wherein a material in which a principal component comprises one or more metals selected from a group consisting of iron, cobalt, and nickel is used as said magnetic film.
- 5 22. A positive resist composition according to claim 20, wherein a material in which a principal component comprises one or more materials selected from a group consisting of tantalum and aluminum oxide (Al_2O_3) is used as said oxidation prevention film.